

# **PEST MANAGEMENT GRANTS -- DEMONSTRATION PROGRESS REPORT**

**Contract Number:** #00-00195S

**Contract Title:** Reduced Risk Vineyard Practices-Demonstration and Outreach by the Central Coast Vineyard Team

**Principle Investigator:** Kris O'Connor, Central Coast Vineyard Team

**Contract Organization:** Central Coast Vineyard Team

**Date:** February 28, 2002

*Prepared for the Department of Pesticide Regulation*

## **DISCLAIMER**

*The statements and conclusions I this report are those of the contractor and not necessarily those of the California Department of Pesticide Regulation. The mention of commercial products, their source, or their use in connection with material reported herein is not to be construed as actual or implied endorsement of such products.*

## ACKNOWLEDGEMENTS

Project coordinator would like to thank several people for their continued commitment to CCVT's work on the Central Coast.

*Meeting Host Growers:* Jim Efird, Mark Fahey, Kurt Gollnick, Tavo Acosta, Craig Macmillan, Neil Roberts, Bob Thomas, Gregg Hibbits, Steve Carter, Kelly Clark. Without their willingness to share their time, facilities, equipment and expertise, CCVT would not have an outreach and education program.

*Technical Advisors:* Larry Bettiga (UCCE), Mary Bianchi (UCCE), Janet Broome (UCSAREP), Mark Battany (UCCE). These individuals have participated with CCVT for several years. They participate with CCVT's outreach program in addition to providing valuable input regarding direction, topics, and technical issues.

*Cooperating Growers:* This group is too large acknowledge individually. Special thanks to growers who continue to participate in the Positive Points System process. They represent the foundation of this innovative program.

*CCVT Members:* Paid membership to the Central Coast Vineyard Team continues to increase and expand. Financial support from local industry is critical for the group's long-term success.

*Local Industry Organizations:* Thanks to the California Association of Winegrape Growers, Monterey County Vintners and Growers Association, Paso Robles Vintners and Growers Association and the Central Coast Winegrowers Association. Each organization cooperates fully with CCVT in advertising and participating with various aspects of this project. Their participation promotes greater attendance at each of the meetings and allows CCVT to reach a greater audience.

Special thanks to CCVT intern Luke McCollom and program assistant Simone Bell. Their continued dedication to CCVT's mission continues to make the program a successful reality.

This report was submitted in fulfillment of #00-0195S "*Reduced Risk Vineyard Practices-Demonstration and Outreach by the Central Coast Vineyard Team*" by the Central Coast Vineyard Team under the partial sponsorship of the California Department of Pesticide Regulation. Work was completed as of February 28, 2001.

TABLE OF CONTENTS

DISCLAIMER..... i

ACKNOWLEDGEMENTS ..... ii

EXECUTIVE SUMMARY ..... 1

FINAL REPORT ..... 2

    Introduction..... 2

    Results ..... 2

    Discussion..... 10

    Summary and Conclusions ..... 11

APPENDICES

    Articles/Publications

    CCVT Newsletters

    Tailgate Meeting Handouts

    Forum Announcements

    Sample PPS Reports

    Meeting Evaluations

    Website Pages

## EXECUTIVE SUMMARY

The Central Coast Vineyard Team (CCVT) is a grower group whose mission is to promote sustainable vineyard practices on the Central Coast. CCVT members own or manage over 30,000 acres of winegrapes in Monterey, San Luis Obispo, and Santa Barbara Counties

CCVT developed the Positive Points System (PPS) that represents a model vineyard that integrates soil, water, pest, and viticultural practices. The PPS vineyard is less dependent on chemical inputs since it relies on balanced biological systems. The PPS promotes voluntary adoption of reduced risk pest management systems. While previous work focused on refining the PPS as an assessment tool, this project uses the tool as a foundation for demonstration and outreach that will target a significant number of growers on the Central Coast.

The objectives for this project are as follows:

**Objective 1. Demonstrate reduced risk practices being successfully used by local growers.** CCVT demonstrated reduced risk practices primarily through 12 regional tailgate meetings held in Monterey, San Luis Obispo, and Santa Barbara Counties. Meeting topics included several reduced risk management practices: reducing pre-emergent herbicides, improving irrigation management, cover crop trials, vinerow tillage and mowing, equipment demonstrations, soil biology, roads maintenance, and Spanish meeting for vineyard foremen. From April 2001 to February 2002, 477 people attended these educational meetings representing approximately 83,300 acres of Central Coast winegrapes. *Most of these attendees were not paid CCVT members.* Handouts were developed for each of these meetings. In addition, template growers have made significant reductions in chemical use. One grower eliminated the use of lannate, pre-emergent herbicides, and Category I/FQPA I baits on his 640 acre ranch. Another template grower does not use any pre-emergent herbicides or insecticides. The Monterey County Template Grower does not use herbicides on his 2,000 acre ranch. These are a few of the examples that are being demonstrated through this project.

**Objective 2. Disseminate information to growers regarding reduced risk practices used on the Central Coast.** CCVT disseminated information to growers through several means. CCVT developed and distributed quarterly newsletters to 2,600 individuals in May, August, January, and February. Newsletters included grower testimonials, resources, and events. An article about CCVT growers and programs were published in a national industry publication (Practical Winery and Vineyard, March/April). Additional articles were published in statewide publications (Grape Grower, Ag Alert) and local publications (Vintages). Publication circulation for CCVT articles for this project period exceeded 116,000 readers. PI, growers, and technical advisors participated in educational events throughout the year reaching over 2,000 people. CCVT educational materials are also published on the website ([www.vineyardteam.org](http://www.vineyardteam.org)).

**Objective 3. Document changes in sustainable practices used in Central Coast Vineyards.** CCVT used the Positive Points System to evaluate the adoption of reduced risk practices after harvest. CCVT conducted PPS workshops in each county in January 2002 to facilitate completion of the evaluations. 26 people attended these workshops. 11 of those were completing their first PPS evaluations and 15 were continuing growers. Evaluations were collected, and the data were analyzed. This year, 54 evaluations were completed at the time of this report. 23 evaluations were from 1<sup>st</sup> time growers – this greatly exceeded CCVT's goal to attract 12 new PPS growers. Results from PPS scores indicate that overall PPS averages are increasing over time. This indicates adoption of new practices that reduce risk. In addition, continuing growers have higher scores than 1<sup>st</sup> time growers. This indicates that the longer a grower is involved with the PPS program, the more sustainable practices he uses in his vineyard.

The scope of people reached through CCVT's efforts clearly indicates the success and effectiveness of CCVT outreach, education, and demonstration activities. In addition improving PPS scores, new growers participating in activities and new memberships represent another measurement of this program's success.

## FINAL REPORT

### Introduction

CCVT is successfully completing each of this project's objectives.

Objective. 1. Demonstrate reduced risk practices being successfully used by local growers.

- Conduct Quarterly Meetings in each county at a "Host Grower" Farm.
- Develop educational materials for Meetings.
- Coordinate with other groups to use a CCVT grower as a stop in their "Tech Tours".
- Gather information about practices used on Central Coast (via on-site visits).
- Conduct management meetings and "Forums" to address practices, special issues and/or planning strategies.

Objective. 2. Disseminate information regarding reduced risk practices to winegrape growers.

- Develop and distribute quarterly newsletters to growers.
- Distribute inserts in other grower group's newsletters.
- Publish articles in industry publications.
- Presentations at industry meetings.
- Update CCVT website.

Objective. 3. Document changes in sustainable practices used in Central Coast Vineyards.

- Use PPS to evaluate blocks.
- Analyze PPS data.

### Results

Objective. 1. Demonstrate reduced risk practices being successfully used by local growers.

1.1. Conduct Quarterly Meetings in each county at a "Host Grower" Farm. For this period, CCVT conducted 11 vineyard meetings on several topics (Table 1). Of these 11 meetings, 7 were hosted by CCVT members who had never hosted before. CCVT is expanding the base of active grower participation.

Based on feedback from meeting evaluations, CCVT organized a major educational event that had a different format than the traditional tailgate meetings. The November Educational Meeting – *Applying Ecological Principles to Commercial Farms* was held at the Embassy Suites in San Luis Obispo. Several highly regarded experts came to present technical information on soil biology, compost, mulching for erosion control. In addition, a progressive grower panel from the north coast was presented practical information on how they use compost, compost tea and manage soil biology to promote overall vineyard balance. The classroom style format allowed for more technical information to be presented that is not easily presented at a Tailgate Meeting format. Also, Central Coast growers appreciated having information from growers from outside of the area. The meeting was so successful and the feedback was so positive that an event for November 2002 is already being planned and a date and facility has been reserved.

From April 2001 to February 2002, 477 people attended CCVT's educational meetings, representing 100,000 acres (Table 2). The amount and nature of attendees is significant for many reasons. *A majority of those attending tailgate meetings are not paid CCVT members (i.e., tailgate meetings reach beyond CCVT membership). Each meeting had both new growers to attend and growers who had previously participated in CCVT activities thus CCVT continues to reach new growers and keeps the attention of those who have attended before. In addition, we are seeing different and additional staff members from vineyard company's previously attending meetings (i.e., companies see value in meetings and are sending additional staff to attend). This shows the ability of CCVT to attract and retain growers to its program. Also, some of the growers are inviting and bringing their foremen to meetings. Meetings were advertised via newsletters, local press, emails, announcements, and other industry mailings.*

**Table 1. Topic, Location and Date, and Statistics of CCVT Educational Meetings (Apr. 2001-Feb. 2002)**

Tailgate Meeting Topic	Location	Dates	Attendees **	Non-Trad. ***	Acreage Rep
Reducing Use of Pre-Emergent Weed Herbicides - Alternatives for Vinerow Management	Santa Maria (SB)	Apr. 5	100	3	13,000
	Paso Robles (SLO)	Apr. 6	30	4	8,000
	Greenfield (M)	Apr. 24	20	4	4,000
Cover Crop Trial and Demonstration	Santa Margarita (SLO)	Apr. 20	30	5	5,000
Reducing Off-Site Movement of Irrigation Water - Improving Irrigation Management	Greenfield (M)	May 22	12	1	7,200
	Santa Maria (SB)	May 29	20	1	8,500
Reducing Sulfur Drift and Pre-Emergent Herbicides - Highlighting Equipment	San Luis Obispo (SLO)	June 7	20	3	7,500
	San Ardo (M)	July 25	80	5	18,500
Vineyard Walk and Tour	Los Olivos (SB)	July 26	12	4	7,300
Spanish Speaking Meeting	Santa Maria (SB)	Aug. 17	25	24	4,300
Roads Meeting	Santa Margarita (SLO)	Oct. 31	30	3	*****
Applying Ecological Principals ****	San Luis Obispo (SLO)	Nov. 7	97	24	*****
			477		83,300

\* County Code: Monterey (M), San Luis Obispo (SLO), Santa Barbara (SB)

\*\* Not all attendees filled out each section of the sign in sheet. The breakdown of attendees and acreage is approximate. A combination of head-count and sign in was used.

\*\*\* Approximate number of females and/or Hispanics.

\*\*\*\* Meeting attracted participants from all over the state.

\*\*\*\*\* Acreage data not collected at these meetings.

Each meeting covered a variety of Positive Points System practices within each meeting topic (Table 2). Planning for the next season of Tailgates, Spanish Speaking and Educational meetings is already underway.

**Table 2. Reduced Risk Practices Discussed at Meetings (April 2001- February 2002)**

Tailgate Meeting Topic	Topics and Highlights
Reducing Pre-Emergent Herbicides - Alternatives for Vinerow Weed Management Equipment Demonstration. Sierra Madre, Santa Maria	Sierra Madre Equipment Demonstration presented approximately 12 pieces of equipment focusing on reducing pre-emergent herbicides. Several mechanical vinerow tillage and mowers were demonstrated, in addition to patchen sprayers. This vineyard eliminated pre-emergent herbicides this year.
Vineyard Demonstration and Discussion. J.Lohr Vineyards, Paso Robles	Steve Carter reduces pre-emergent herbicides by reducing bandwidth, alternating years of use, and mixing with contact herbicides. He discussed these methods in Paso Robles, along with weed identification. A "steamer" weed killer (non-chemical alternative) was also demonstrated.
Vineyard Demonstration and Discussion. Loma Vista Vineyards, Soledad	Daryl Salm and Rich Smith, in conjunction with Cooperative Extension Farm Advisor and USDA Researcher, discussed the research project involving various methods of vinerow weed management (i.e., pre-emergent, mechanical, contact herbicide). The growers are using each of these methods on a commercial basis. Growers discussed equipment, materials, types of weed pressure, and economics.
Cover Crop Trial and Demonstration Cuesta Ridge Vineyards, Santa Margarita	These growers initiated extensive demonstrations and trials involving several different seed mixes for various uses. Some mixes are being tried for wet areas, dry areas, highly erosive, insectory mixes, etc. Growers could see the different mixes, discuss costs, issues with establishment, and grower's opinions with performance and use.
Reducing Off-Site Movement of Irrigation Water - Improving Irrigation Management Scheid Vineyards, Greenfield Riverbench Vineyards, Santa Maria Pacific Vineyards, Edna Valley	Growers discussed methods for tracking soil moisture and plant stress. Use of a pressure bomb was demonstrated and methods for interpretation were discussed. Methods for determining set times (calculations, ET models, etc.) were explained and demonstrated. Techniques for reducing deep percolation and applied water (i.e., improved timing, deficit irrigation) were also discussed.

Table 2. cont'd.

<b>Reducing Drift and Pre-Emergent Herbicides – Highlighting Equipment Options</b>	
Chalk Knoll Vineyards, San Ardo	This demonstration was accessible to growers in the Northern part of the Central Coast. Mechanical tillage equipment and mowers to reduce pre-emergent herbicides were available and demonstrated. In addition, canopy management equipment performing leaf removal thus allowing opening canopy and improving powdery mildew treatment were demonstrated. Issues of sulfur drift were addressed.
<b>Vineyard Walk and Tour</b>	
Fess Parker Vineyards, Los Olivos	Based on evaluations from a previous meeting, this smaller group walked through the vineyard and discussed issues of cover crops, pest monitoring, vine balance, reduction of fertilizer applications, reduction of powdery mildew treatments, and irrigation scheduling. By promoting vine balance, there is less stress and need to apply additional inputs and materials.
<b>Spanish Meeting for Vineyard Foremen.</b>	
Intro to Sustainable Agriculture and CCVT, Whitehills Vineyard in Santa Maria	This meeting provided an introduction to sustainable agriculture concepts to Spanish speaking vineyard foremen. The host grower gave background information on CCVT and encouraged comments from participants as to their needs and interest in continuing education.
<b>Roads Meeting</b>	
Cuesta Ridge Vineyards, Santa Margarita	This meeting provided information for growers regarding reducing off-site movement of soil and water through roads management. Meeting used classroom style section in addition to a field tour of various strategies to keep soil, water, fertilizers, and pesticides in place through managing roads.
<b>Educational Meeting – Applying Ecological Principles to Commercial Farms</b>	
Embassy Suites, San Luis Obispo	This meeting brought in experts regarding soil microbiology, compost, and erosion control. A progressive panel of growers from the North Coast shared their experiences with using the techniques discussed by the panel of experts.

1.2 Develop educational materials for Meetings. Materials were developed for each Tailgate Meeting (Appendix). Information about a grower's particular practice, record-keeping system, farming approach, equipment, etc. was provided. In addition, a CCVT brochure was translated into Spanish for the Spanish-speaking meetings.

1.3 Coordinate with other groups to use a CCVT grower as a stop in their "Tech Tours". CCVT hosted a tour on August 10 to three Monterey County member vineyards. Approximately 30 people attended the event – attendees included several groups of people: growers, representatives from the Department of Pesticide Regulation, managers from the Regional Water Quality Control Board, Natural Resource Conservation District, and Representatives Lois Capps and Sam Farr. Issues discussed included canopy management; vineyard development and design; hillside plantings; low-volume irrigation/frost control; organic grape production; non-chemical weed control; current research projects; farming around neighbors, etc.

In May, eight CCVT members traveled to the Lodi region to tour several sites. It was an outstanding opportunity to have LWWC growers exchange information with CCVT growers. Topics discussed included reducing the use of pre-emergent herbicides, reducing drift, farming around neighbors, sub-surface irrigation, canopy management, and equipment options. CCVT hopes to host Lodi growers this year in the Central Coast region.

1.4 Gather information about practices used on Central Coast (via on-site visits). Executive Director (Kris O'Connor) and Cal Poly intern visited several sites in each county throughout the summer (Riverbench, Fess Parker, Paragon, Chalk Knoll, San Bernabe, Hillside, Zabala, Carmel Valley, and Scheid Vineyards). Information was gathered about their practices, successes and challenges. Information was documented and used for newsletters, presentations, and handouts.

1.5 Conduct management meetings and "Forums" to address practices, special issues and/or planning strategies. On April 25, CCVT hosted a technical exchange (Forum) in Soledad. LynneDee Althouse, Ph.D.c., principal scientist with Althouse and Meade, Inc. Biological and Environmental Services, discussed current projects/studies regarding cover cropping strategies for wine, water, and wildlife



value. She summarized cover crop trials and demonstrations at Santa Margarita Ranch, in addition to erosion control and water quality studies.

CCVT held another forum on August 2 in Paso Robles. Angélica Welsh, Associate Environmental Research Scientist with the Department of Pesticide Regulation, presented results from a research project conducted in several Lodi vineyards. The project assessed the effects of air-assisted, reduced-volume, electrostatic spray technology and air-assisted, high-volume, conventional application on dislodgeable foliar residue of myclobutanil applied to commercial vineyards.

The Annual Meeting was conducted on November 13 in Paso Robles. Board members and grower members reviewed strategic planning priorities and methods for expanding program. Special speakers also addressed the group. Jeff Dlott and Cliff Ohmart discussed the current CAWG and Wine Institute collaboration regarding statewide implementation of sustainable practices. And Pete Canessa from the Center for Irrigation Technology provided information regarding pump test programs and incentives offered through the California Energy Commission.

On February 13, CCVT conducted a Forum in Paso Robles. Board members and grower members reviewed outreach and educational activities and plans for upcoming events. The meeting concluded with a roundtable discussion of issues important to growers. Some growers shared about a new vineyard development and the use of rice straw for erosion control. Other growers discussed experience with specific equipment, seeding techniques, and conversion to perennial cover crops.

In addition, activities committee members met on April 6 and November 30 to plan outreach and educational activities. Several new people to CCVT's planning were involved with this process.

**Objective. 2. Disseminate information regarding reduced risk practices to winegrape growers.**

- 2.1 Develop and distribute quarterly newsletters to growers. Approximately 2,600 newsletters were developed and distributed in May 2001, August 2001, January 2002, and February 2002 to the entire CCVT mailing list. Additional newsletters were distributed at other events, fairs, and festivals. Newsletters contain information on growers' practices, Tailgate Meetings, events, membership, and technical information.
- 2.2 Distribute inserts in other grower group's newsletters. CCVT provided information for the Central Coast Grape Growers Newsletter. Information regarding the Positive Points System workshops and ran in January 2002. This newsletter reached several hundred people in the Central Coast region. CCVT has also expanded participation with regional industry groups through expanded participation at wine festivals.
- 2.3 Publish articles in industry publications. This year CCVT has been the most successful in contributing articles and information for publication. Previously, CCVT has published 1 or 2 articles - but this year, CCVT published six articles on its outreach and education program. Some of these publications target grape growers and the wine industry and addressed specific issues of sustainable practices. Other publications reached statewide farm bureau members and addressed the benefits of self assessment the applicability of the Positive Points System to other crops (Table 3).

Practical Winery and Vineyard (March/April Issue) published an article entitled "Decreased spraying improves quality, nature, and bottom line". This article highlighted integrated vineyard management practices of San Bernabe Vineyards in King City, a CCVT founding member. The article addressed several issues pertaining to reduced chemical use: low volume application, night time application with no wind, open trellis systems, electrostatic sprayers, split canopies, aggressive monitoring schedules, in house PCA support, weather station and degree day models, permanent cover crops, BT's, and resistance management. This article reached a statewide industry audience of approximately 10,000 readers.

**Table 3. Contributions and articles produced by CCVT (March 2001 - February 2002).**

Title of Article	Publication	Date	Circulation	Nature of Article
Decreased spraying improves quality, nature, and bottom line	Practical Winery and Vineyard	Mar/Apr 2001	7,500	Description on San Bernabe's reduction of pesticide use
CCVT focus on sulfur	Wines and Vines	Oct. 2001	4,000	Describes grower outreach regarding sulfur
Controlling Erosion the Central Coast Way	Grape Grower	Sept. 2001	11,184	Description of non-point source prevention
Sustainable Vineyards - Central Coast Vineyard Team	Wine Business Monthly	Nov. 2001	8,500	Description of August 2001 outreach tour involving growers and government officials
CCVT continuing to expand programs	Vintages	Spring 2002	45,000	Summary of CCVT's program and accomplishments
Environmental approach of vineyard team is spreading	Ag Alert	January 30, 2002	40,320	Description of other groups and commodities using/adopting PPS
Total			116,504	

2.4 **Presentations at industry meetings.** CCVT participated in several events this year. Communication took many forms: talks at major statewide meetings, panel participation, educational tables and handouts, television appearances, and radio interviews. A conservative estimate of people reached by these events is 2,000 people (Table 4).

**Table 4. CCVT Participation in Education and Outreach (March 2001 - February 2002)**

Date	Meeting and Location	Type of Participation	Attendees *
March 8	CSU Viticulture Course - Santa Maria	Panel member, discussion of ag, urban, environmental cooperation, table and handouts	150
Mar 21	Wine Symposium - Napa	Table and handouts, panel member	200
April 20	PRVGA Sustainable Workshop -- Paso Robles	Panel members on cover crops, meeting facilitator	75
April 21, 22	Santa Barbara County Vintners Festival - Los Olivos	Educational table and handouts	200
May 10	Central Coast Wine Growers Tour	Handouts, discussion with central coast wine-growers	100
May 23	UC Land Use Workshop - Healdsburg	Presentation on diversity in vineyards, wildlife issues, water quality - Table and handouts	100
May 29	Lecture at Cal Poly IPM Class, San Luis Obispo	Discussion of PPS and integrated farming philosophies	50
May 31	Tour of Lodi Vineyards, Lodi	Exchange and tour with Lodi BIFS growers about reduced risk farming	30
June 26	Kalaidascope Television Show - Los Angeles	Discussion of sustainable vineyard practices, biological based farming methods	National Syndication
June 28	UC Regents Tour - Monterey County	Tour of CCVT member vineyard, discussion of PPS, handouts	50
July 13	Radio Interview for Marin County show	Discussion of biological farming, integrated approaches	North Coast Syndication
July 16	Wine Institute Meeting	Discussion of "grower buy-in" for sustainable ag issues	30

Table 4 cont'd

July 16	Wine Vision – Rohnert Park	Discussion of “empowering” labor issues, social equity, handouts	150
August 3	Grape Escape Day – Paso Robles	Educational table and handouts	200
August 11	Monterey County Vintners Festival	Educational Table and handouts	200
Aug 15	Six County Farm Bureau Coalition – Salinas	Presentation on “grower to grower” outreach, how to achieve grower “buy in”	20
Sept 19	SLO Business Group	Presentation to community members about reduced risk practices	30
Oct 6	Nipomo Creek Day	Educational table and handouts	50
Oct 13	Arroyo Creek Day	Educational table and handouts	50
Nov 27	Visit with E & J Gallo	Discussion with VP of E & J Gallo regarding CCVT’s programs and recruiting expanded Gallo involvement	2
Dec 3	The Nature Conservancy, Monterey	Growers meeting with TNC to discuss how PPS	10
Dec 12	Pump Test Meeting	Cooperate with local Resource Conservation Group to give presentation about	30
Dec 14	Mendocino County Meeting	Discussion with administrator of Mendocino County Growers about adopting PPS	3
Jan 16	Nutrient Conference, Salinas	Presentation about grower led initiative to adopt reduced risk practices -- targeted other ag commodities	150
Jan 17	Castoro Growers Meeting	Presentation about PPS and sustainable growing to non-CCVT members	30
Jan 25	Eco-Farm, Asilomar	Discussion of CCVT’s programs, outreach, adoption of practices	75
Jan 31	Workgroup for PPS Development for Citrus, Kearney	Discussion of the PPS and how to achieve grower “buy in” for development of PPS for citrus	20
<b>Estimated Totals</b>			<b>2,005</b>

\* Number of attendees is approximate. CCVT did not maintain sign in sheets at these meetings.

**2.5 Update CCVT website.** CCVT Website was updated periodically this year. Website is used to advertise meetings, post photos, post handouts for meetings. There is also information about Spanish speaking programs. It continues to be an important vehicle for distributing information. Appendix contains examples of website updates.

**Objective. 3. Document changes in sustainable practices used in Central Coast Vineyards.**

**3.1 Use PPS to evaluate blocks.** PPS evaluations are typically completed after harvest each year. Evaluations occurred from November 2001 to January 2002.

This year CCVT tried something new in its PPS program. CCVT conducted three workshops to facilitate completion of PPS evaluations (Table 5). 26 people attended – of these, 11 were first time PPS growers and 15 were continuing growers. Feedback was excellent -- growers appreciated the ease of completing an evaluation in this way. *Growers from San Benito and Los Angeles County completed PPS evaluations for the first time – this marks a significant expansion in the PPS program beyond the previously strong three county base.*

Table 5. Attendance statistics for Positive Points System Workshops.

Location	New Growers	Continuing Growers	Total
Scheid Vineyards, Greenfield	3	5	8
Meridian Vineyards, Paso Robles	6	6	12
Cat Canyon Vineyards, Los Alamos	2	4	6
<b>Total</b>	<b>11</b>	<b>15</b>	<b>26</b>

The remainder of PPS evaluations were completed by interview for the new growers. For many of the continuing growers, evaluations were completed without CCVT assistance. This year, 54 PPS evaluations

were completed at the time of this report (Table 6). This represents a 20% increase in the number of evaluations completed from the previous years. In addition, of the 54 evaluations completed, 23 were completed by "1<sup>st</sup> time" PPS growers. The number of new growers completing PPS evaluations continues to increase every year. In addition, significant numbers of growers continue to complete PPS evaluations for multiple years (Table 7).

**Table 6. Number of PPS Evaluations Completed by County and Year**

County	Number of PPS Evaluations Completed					
	1996	1997	1998	1999	2000	2001
Monterey	8	9	12	14	11	14
San Luis Obispo	3	9	15	12	18	21
Santa Barbara	7	5	7	13	15	17
San Benito						1
Los Angeles						1
Total	18	23	34	39	44	54

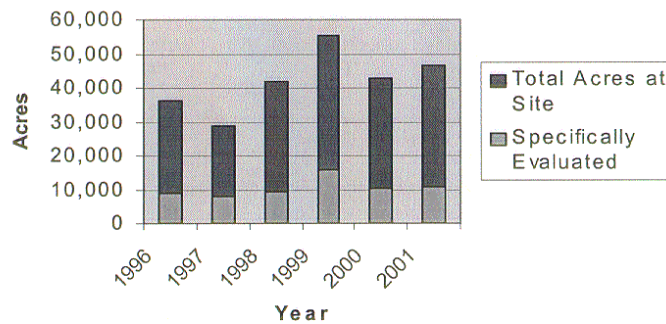
**Table 7. Number of new and continuing evaluations completed each year.**

Type of Evaluation	Number of Evaluations Completed					
	1996	1997	1998	1999	2000	2001
New Evaluations	18	15	8	10	13	23
Continuing Evaluations	0	8	26	29	31	31
Total	18	23	34	39	44	54

Acres evaluated using the PPS increased from 10,442 to 10,833 from 2000 to 2001 (Table 8). In addition, acres at the site evaluated increased from 32, 410 to 35,748 from 2000 to 2001. There is a general trend in increasing acreage over time (Figure 1).

**Table 8. Acres Specifically Evaluated and Total Acres at Evaluated Site**

Year	Acres	
	Specifically Evaluated	Total at Site
1996	8,903	27,399
1997	8,053	20,639
1998	9,386	32,583
1999	15,634	39,735
2000	10,442	32,410
2001	10,833	35,748
Total	63,251	188,514



**Figure 1. Comparison of acreage specifically evaluated versus the total acreage at evaluated site.**

3.2 Analyze PPS data. The PPS Database was upgraded and improved this year. Database provides improved reports for growers to track historical information and compare with other growers in the year (Appendix). In addition, CCVT was able to gather additional information from the database.

Table 9. Historical PPS Data by Year

Year	Pest	Soil	Water	Viticulture	Continuing Education	Wine Quality	Totals
1996	145	147	179	149	92	86	799
1997	154	138	165	155	89	87	788
1998	163	154	170	154	91	86	817
1999	159	144	173	165	88	90	818
2000	162	151	167	158	75	87	800
2001	160	150	175	159	96	84	823

Average PPS total scores of all growers increased from 800 to 823 from 2000 to 2001 (Table 9). The minimum scores for the evaluations continue to decrease over time (Figure 2). This year marks the lowest evaluation score of all time (371). In all of these cases, the lowest scores are that of new growers to the program. The trend towards lower scores with new growers influences the overall average.

The first several years that CCVT collected PPS evaluations, growers were mainly “core” or founding CCVT members. That is, they were progressive growers and were using sustainable practices. But as the base of PPS participation increases, the scores for newer growers is decreasing.

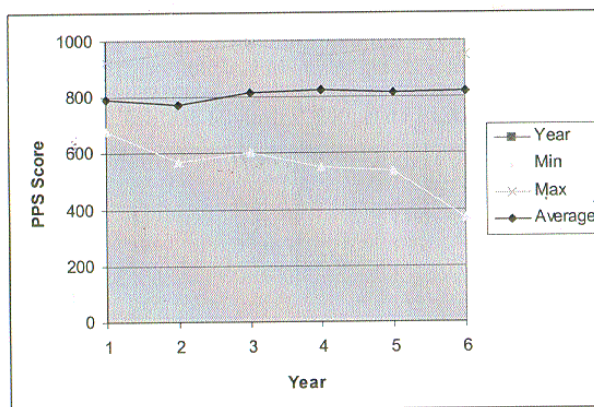


Figure 2. Minimum, Maximum and Average PPS Scores by Year.

The overall distribution of scores is changing over time. The number of scores falling in the 800 – 1,000 range continues to increase (Table 10).

Table 10. Distribution of PPS Scores by Year.

	Number of PPS Scores Completed in a Given Range					
PPS Score	1996	1997	1998	1999	2000	2001
< 500	0	0	0	0	0	1
500-599	0	3	0	1	1	1
600-699	2	1	4	4	1	2
700-799	8	7	9	5	18	10
800-899	4	10	15	22	16	26
900+	4	2	6	8	8	15
	18	23	34	40	44	55

When 1<sup>st</sup> year evaluations and continuing evaluations are compared, clear differences emerge. Continuing evaluations are approximately 80 points higher than 1<sup>st</sup> year evaluations for 2000 and 2001 (Table 11, Figure 3).

Table 11. Comparison of 1<sup>st</sup> Year and continuing evaluation PPS scores.

	1996	1997	1998	1999	2000	2001
1st Year Evaluations	799	758	804	793	761	785
Continuing Evaluations		819	830	843	840	860

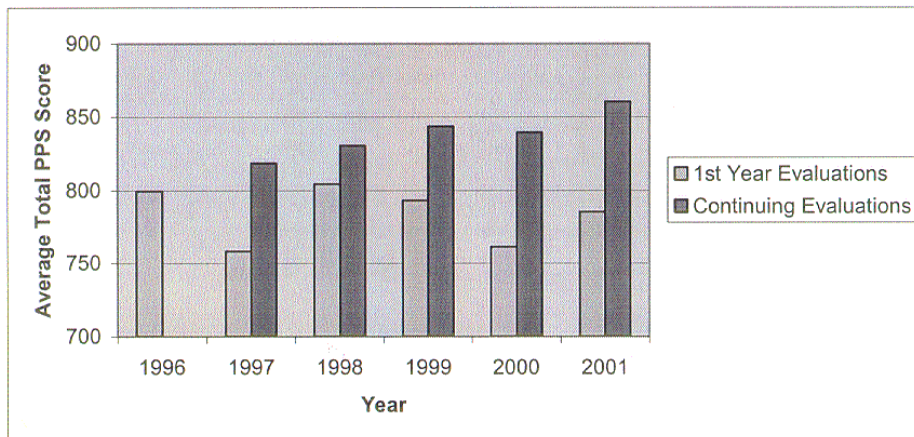


Figure 3. Comparison of 1<sup>st</sup> Year and Continuing Grower PPS evaluation scores.

Not only is it important to compare overall averages and trends, it is important to analyze what is happening on a particular block over time. That is, are growers adopting new practices on a block? Are the conditions on a particular piece of property improving over time? This can be done by looking at evaluations of a given block over time.

Since 1996, 51 blocks have been evaluated over time. Of these, 42 blocks' scores have increased (Table 12). As the number of years a block has been evaluated increases, the likelihood for the score to increase also increases. The more evaluations they complete, the more likely that practices are being adopted.

Table 12. Incidence of increased and decreased score with number of years completing evaluations.

No. of Years Evaluating a Block	Number of Blocks	
	Increase Score	Decrease Score
2	10	4
3	13	4
4	6	0
5	8	1
6	5	0
Total	42	9

## Discussion

There are several ways to evaluate the progress of this project.

**PPS Evaluations.** *Results from PPS evaluations indicate that growers are adopting new practices.* Not only are average overall scores improving, but also scores on a given block are improving. In addition, data suggest that continuing grower have higher scores than new growers. The data also suggest that the more years a block is evaluated, the more likely the score will increase. This is an important method for deter-



mining project success because it reflects actual practices growers use in the vineyard. Continuing improvement in the database, therefore improving CCVT's analytical capabilities will allow CCVT to fully analyze and use the information provided through PPS evaluations.

Attendance Statistics. Sign in sheets are provided at CCVT sponsored educational meetings. Information regarding acreage and affiliation is called for on these sheets. Attendance and acreage represented at these meetings and activities have been outstanding. This is an important indicator of the project's success; results indicate a *project that is reaching significant acreage, growers, and PCA's beyond the core CCVT membership.*

Meeting Evaluations. Meeting participants are encouraged to complete a brief evaluation form after each tailgate meeting. Feedback from these evaluations is extremely positive. Evaluations suggest that the information is pertinent, relevant, and interesting. *In addition, most evaluations indicate that growers will change practices as a result of the meeting.* As a result of the Educational Meeting in November on soil biology, several CCVT growers are pursuing expanded compost program to enhance biological activity.

Recognition from Other Groups. The Wine Institute is initiating a sustainability project that will use the PPS and the Lodi Workbook as a foundation. Beth Grafton-Cardwell, UC Citrus Farm Advisor, is formulating a workgroup to modify the PPS for citrus. CCVT attended the initial meeting of this group to provide insight and information regarding CCVT's success and how to achieve grower buy in. CCVT looks forward to working with the citrus group in the future to facilitate their project's success. Representatives from the Lake County winegrape commission visited with CCVT representatives to learn about the PPS and implementing sections of it in their region. The Paso Robles Vintners and Growers Association is developing a new quality alliance which will probably use parts of the PPS for implementation and education. Clearly, CCVT's success is being recognized and shared with other agricultural groups - both in and out of the region and representing winegrapes and other commodities. Again, this emphasizes the transferability of this project and applicability to a wide variety of situations.

Spanish Speaking Program. The success of the Spanish speaking meeting in August suggested that CCVT develop and Spanish speaking program. Planning for the Spanish speaking program began at the end of this project period. In March, CCVT held a series of spanish meetings on the use of sulfur. More than 100 people attended these meetings and people agreed that there was a need and interest in further spanish speaking programs. In addition, CCVT plans to implement a basic Spanish speaking IPM meeting in each county. CCVT is also discussing translating the Positive Points System into Spanish in addition to other educational fliers. This would be a significant educational tool to reach the Spanish speaking vineyard foremen and fieldworkers.

### Summary and Conclusions

*Funding from DPR has enabled CCVT to significantly expand its aggressive outreach and education program and influence the management practices used in vineyards.* Four years ago, CCVT's program consisted of core growers and founding members completing PPS evaluations. There was no educational program - there were no publications - there was no outreach to other regions or other commodities. Three years ago, CCVT hired a part time staff member who began attending industry meetings and sharing about the PPS. Now, CCVT has a model program that has several components: quarterly tailgate meetings, quarterly newsletters, website, PPS workshops, annual educational meeting, special discussions/forums, spanish speaking meetings, items industry publications, education of the non-agricultural community, and presence at industry meetings. This program has retained existing growers and attracted new growers to the program. Paid memberships have increased nearly 10 fold over a 5 year period. This is another testimony to the CCVT program.

It is no coincidence that growers are adopting new practices, as demonstrated through PPS results. It is no coincidence that other commodities and regions are talking about CCVT's program's success. Clearly CCVT has had a significant influence on grower's behavior and the adoption of sustainable practices.

## **APPENDICES**

### **Articles/Publications**

- ♦ CCVT Brochure
- ♦ "Decreased spraying improves quality, nature, bottom line" *Practical Winery and Vineyard*, March/ April 2001
- ♦ "CCVT focus on sulfur" *Wines and Vines*, October 2001
- ♦ "Controlling Erosion the Central Coast Way" *Grape Grower*, October 2001
- ♦ "Sustainable Vineyards – Central Coast Vineyard Team", *Wine Business Monthly*, November 2001
- ♦ "CCVT continuing to expand programs" *Vintages*, Spring 2002
- ♦ "Environmental approach of vineyard team is spreading" *Ag Alert*, January 30, 2002

### **CCVT Newsletters**

- ♦ May 2001
- ♦ August 2001
- ♦ January 2002
- ♦ February 2002

### **Tailgate Meeting Handouts**

- ♦ Vinerow Weed Management
- ♦ Cover Crop Trial and Demonstration
- ♦ Irrigation Management
- ♦ San Ardo Equipment Demonstration
- ♦ Vineyard Walk and Tour
- ♦ Spanish Meeting for Vineyard Foremen

### **Forum Announcements**

### **Sample PPS Reports**

### **Meeting Evaluations**

### **Website Pages**